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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/546,909	04/10/2000	Daniel Marian Ene	27950-408	3460

7590 07/19/2004  
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EXAMINER

NGUYEN, THUAN T

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/546,909

**Applicant(s)**

ENE, DANIEL MARIAN

**Examiner**

THUAN T. NGUYEN

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bugnon et al. (U.S. Patent No. 6,397,056 B1) in view of Brown et al. (U.S. Patent No. 5,668,875).

Regarding claim 1, Bugnon discloses "a method for handling global challenge authentication registration in a cellular telecommunications network, the method comprising steps of: receiving at a Mobile Switching Center (MSC) a registration message from a mobile station; determining whether the MSC has capabilities for bypassing global challenge authentication; if the MSC has capabilities for bypassing global challenge authentication, verifying whether a Visitor Location Register (VLR) relating to the MSC has a record for the mobile station from which the registration message has been received and if so bypassing the global challenge authentication for the mobile station, else performing the global challenge authentication; and if the MSC does not have capabilities for bypassing global challenge authentication, performing the global challenge authentication for the mobile station from which

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the registration message has been received”, i.e., the authentication process is performed conventionally as illustrated in Figure 1 as the MSC and its related VLR contains information of a mobile user and verify the user using shared secret data (SSD, col. 1/lines 27-45), if the mobile user roams to a visiting area, the MSC detects the roaming and the authentication by a global challenge authentication is not necessary (col. 3/lines 27-55 and col. 5/lines 15-41), or bypassing, if the MSC detects some unusual activities such as failure attempting to gain the access to the system at the visiting location or V-MSC or serving area, the global challenge authentication or known as using CAVE algorithm is used to verify and authenticate the mobile user (Fig. 2B, and col. 6/line 46 to col. 7/line 21); and if the MSC does not have capabilities for bypassing global challenge authentication, in this case, the SSD is not shared at the visiting MSC so that MSC does not determine whether to allow bypassing or not, the global challenge authentication is performed for authenticating the mobile user (col. 2/line 45 to col. 3/line 3 as the home location register is used instead of VLR while the mobile user is roaming because the shared secret data SSD is not shared yet).

Bugnon does not clearly show that if the VLR does contain or have same profile of the mobile user as of the HLR's, the global challenge can be bypassed as argued by the Applicants; however, this same technique is taught by Brown as Brown clearly show that if same authentication algorithm in the visited system or VLR, the shared secret data is sending from the HLR and the authentication challenge or global challenge can be bypassed, only if the authentication is not in the VLR, the global challenge is performing at steps 440 & 450 (see Brown, Fig. 4, and col. 7/line 34 to col. 8/line 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bugnon's global

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challenge technique of bypassing the authentication step if the VLR does contain the same profile of the mobile user to avoid problems and allow users to roam easily as noted by Brown in using the global challenge for preventing fraudulent accesses (Brown, col. 1/line 60 to col. 2/line 61).

As for claim 2, in further view of claim 1 above, Bugnon further discloses “wherein the method further comprises a step of: informing the VLR that the MSC has received the registration message from the mobile station, and resetting a timer therein” (Fig. 2B at step 356, and col. 7/lines 7-21), i.e., a timer is inherently suggested to include because the MSC or the V-MSC can set the receiving messages in any combination of the number and frequency of AFREPORT messages, time intervals/delays (col. 7/lines 30-57).

As for claim 3, in further view of claim 1 above, Bugnon discloses “wherein the step of verifying whether the VLR relating to the MSC has a record for the mobile station from which the registration message has been received further includes a step of verifying whether the mobile station has previously succeeded authentication” (col. 6/lines 17-45 as MSC handles and keeps track of positive authentication for authorizing the mobile user communicates within the roaming area).

As for claim 4, in further view of claim 1 above, Bugnon further discloses “wherein before the step of receiving registration message at the MSC, the method comprises further steps of: broadcasting by the MSC on a control channel that global challenge authentication is required upon access to the cellular telecommunications network; receiving by the mobile station the broadcasting of the MSC; performing global challenge authentication calculation to obtain an authentication signature; and including the authentication signature in the registration message

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and sending the registration message” (Fig. 2B, a unique challenge order 354 is sending to the mobile user on a control channel as a requirement for authentication, and the mobile user receives and performs global challenge authentication using CAVE algorithm and provides a unique challenge response 356 AUTHU value as “authentication signature” in the message back to the MSC for registration, col. 7/lines 7-21).

As for claim 5, in further view of claim 4, Bugnon further teaches “comprising steps of: after the step of receiving by the mobile station the broadcasting of the MSC, a step of determining whether the control channel is the same as when a previous registration was performed, and if the control channel is the same, the global challenge authentication calculation is not performed, and the registration is sent without the authentication signature” (Fig. 2A shows a control message flow whether if a previous registration is done, or local authentication is done, the global challenge authentication calculation is not required, col. 5/line 53 to col. 6/line 37).

As for claim 6, in further view of claim 1, Bugnon and Brown discloses “wherein before the step of receiving a registration message at the MSC, the method comprises further steps of: broadcasting by the MSC on a control channel that global challenge authentication is required upon access to the cellular telecommunications network, but that global challenge authentication is not required for periodic registration; receiving by the mobile station the broadcasting of the MSC; determining whether the broadcasting of the MSG indicates whether global challenge authentication is required for period registration; if global challenge authentication is required for periodic registration, performing global challenge authentication calculation to obtain the authentication signature and including the authentication signature in the registration message;

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and if global challenge authentication is not required for periodic registration, sending the registration message without the authentication signature”, i.e., this process is similar as in claim 4 with the determining whether or not the global challenge authentication is required for periodic registration, if yes, the authentication signature is sent as discussed in claim 4, if no, the process is same as in claim 5, see col. 5/line 15 to col. 6/line 37; and see claim 1 above for “global challenge” issue whether it is required or not).

As for claim 7, in further view of claim 6, Bugnon teaches “wherein the step of determining whether the MSC has capabilities for bypassing global challenge authentication comprises steps of: determining whether a bypass global challenge feature is active; if the bypass global challenge feature is not active, the MSG does not have capabilities for bypassing global challenge authentication; if the bypass global challenge feature is active, verifying whether the MSC has broadcast global challenge authentication is not required for periodic registration, and if the MSC has broadcast that the global challenge authentication is not required for periodic registration, the MSG has capabilities for bypassing global challenge authentication; if the bypass global challenge feature is active, and the MSC has not broadcast that the global challenge authentication is not required for periodic registration, verifying whether statistical global challenge authentication is to be performed for periodic registration; if statistical global challenge authentication is to be performed for periodic registration, the MSC does not have capabilities for bypassing global challenge authentication; and if statistical global challenge authentication is not to be performed for periodic registration, the MSC has capabilities for bypassing global challenge authentication” (see claims 1, 4, 5, and 6 for this combined claim).

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As for claims 8-13, these claims for “a Mobile Switching Center (MSC) for handling global challenge authentication registration, the MSC comprising: an input port for receiving a registration message from a mobile station; and a global challenge authentication logic for determining whether global challenge authentication is required for the mobile station from which the registration message has been received” using same techniques as claimed in claims 1-7 above are rejected for the reason given in the scope of claims 1-7 as disclosed above.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Amin et al (US Patent 5,953,652) and broyles et al. (US Patent 6,665,530 B1) disclose communications systems related to global challenge authentication.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9306, (for Technology Center 2600 only)**

*Hand-delivered responses should be brought to Crystal Park II,*


*2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).*



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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (703) 308-5860. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Technology Center 2600 Customer Service Office** whose telephone number is **(703) 306-0377**.



TONY T. NGUYEN  
PATENT EXAMINER, *FSO*

Tony T. Nguyen  
Art Unit 2685  
July 7, 2004